

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BARBADOES POND	Lake Area (ha): 5.75
Town: MADBURY	Maximum depth (m): 14.6
County: Strafford	Mean depth (m): 6.1
River Basin: Coastal	Volume (m ³): 348500
Latitude: 43°11'25" N	Relative depth: 5.4
Longitude: 70°56'00" W	Shore configuration: 1.18
Elevation (ft): 132	Areal water load (m/yr): 3.20
Shore length (m): 1000	Flushing rate (yr ⁻¹): 0.50
Watershed area (ha): 38.8	P retention coeff.: 0.74
% watershed ponded: 0.0	Lake type: natural

BIOLOGICAL:

		29 January 1992	29 July 1991
DOM. PHYTOPLANKTON (% TOTAL)	#1	SYNURA 85%	DINOBRYON 60%
	#2		CERATIUM 30%
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			
CHLOROPHYLL-A (µg/L)			9.31
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 76%	SPARSE - NO DOMINANT
	#2		
	#3		
ROTIFERS/LITER		85	1
MICROCRUSTACEA/LITER		6	5
ZOOPLANKTON ABUNDANCE (#/L)		107	6
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			4.9
BOTTOM DISSOLVED OXYGEN (mg/L)		2.8	0.4
BACTERIA (fecal col., #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.4
Hypolimnion volume (m³): 80000
Anoxic volume (m³): 56000

CHEMICAL:

Lake: BARBADOES POND
Town: MADBURY

	29 January 1992		29 July 1991		
DEPTH (m)	5.0	10.0	2.0	7.0	12.0
pH (units)	6.5	6.5	7.3	6.6	6.8
A.N.C. (Alkalinity)	15.6	16.2	10.3	25.2	22.2
NITRATE NITROGEN			0.06		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.012	0.012	0.009	0.016	0.037
CONDUCTIVITY (μ mhos/cm)	151.4	155.6	150.4	146.3	157.4
APPARENT COLOR (cpu)	13	14	11	27	23
MAGNESIUM			1.88		
CALCIUM			6.8		
SODIUM			16.7		
POTASSIUM			1.82		
CHLORIDE		30	28		26
SULFATE	< 1	10	9		6
TN : TP					
CALCITE SATURATION INDEX			2.2		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
6	2	0	2	10	Meso.

COMMENTS:

1. No public access; town closed the boat launch site.
2. An active sand and gravel pit was located along the western shoreline and an intake pipe was present for the gravel operation.
3. The wholewater plankton was dominated by the blue-green Microcystis, but no cell counts were conducted.

Barbadoes Pond Madbury

10 foot depth contours

N



40

48' X

30

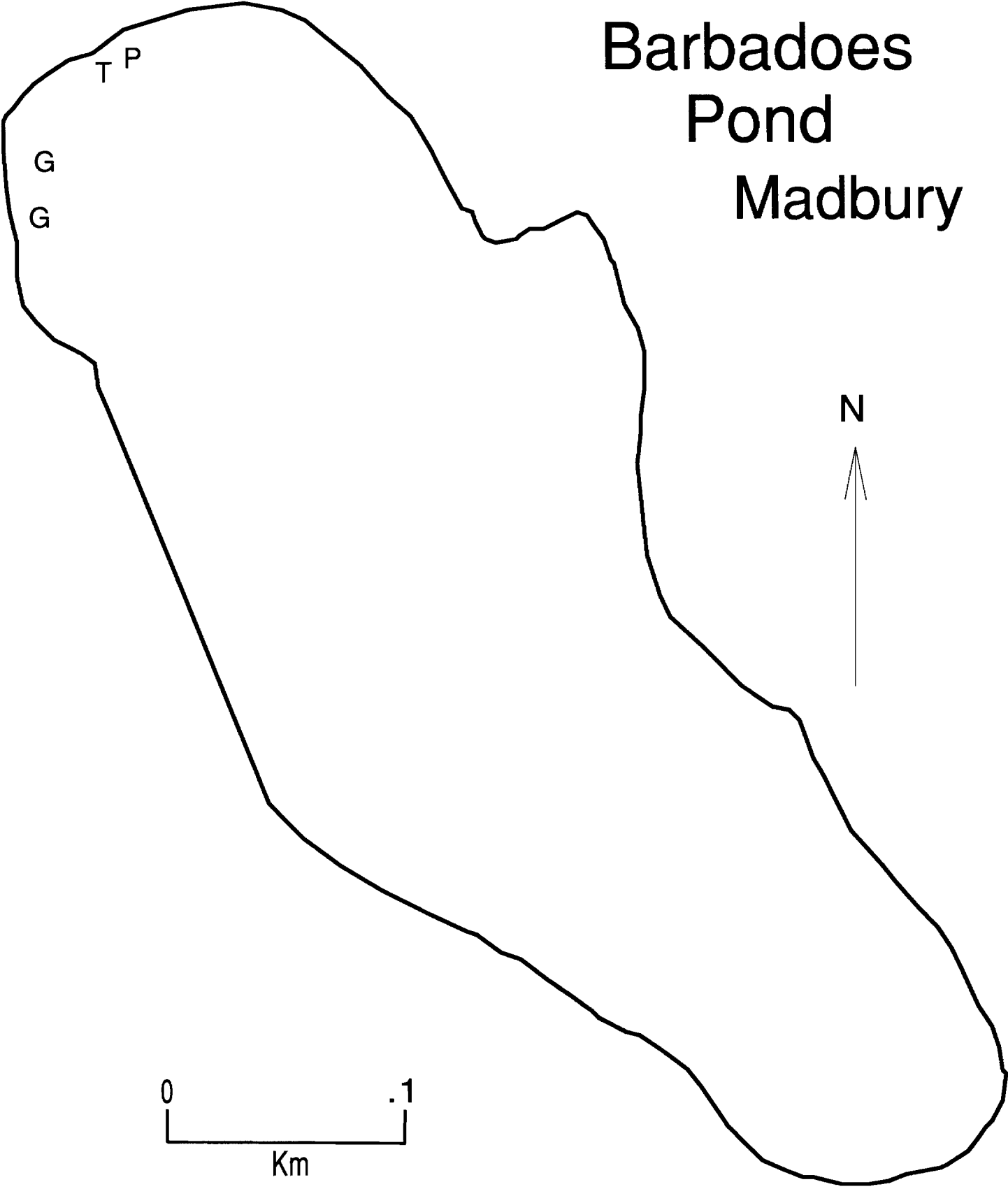
20

10

0 .1
Km

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Barbadoes
Pond
Madbury



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